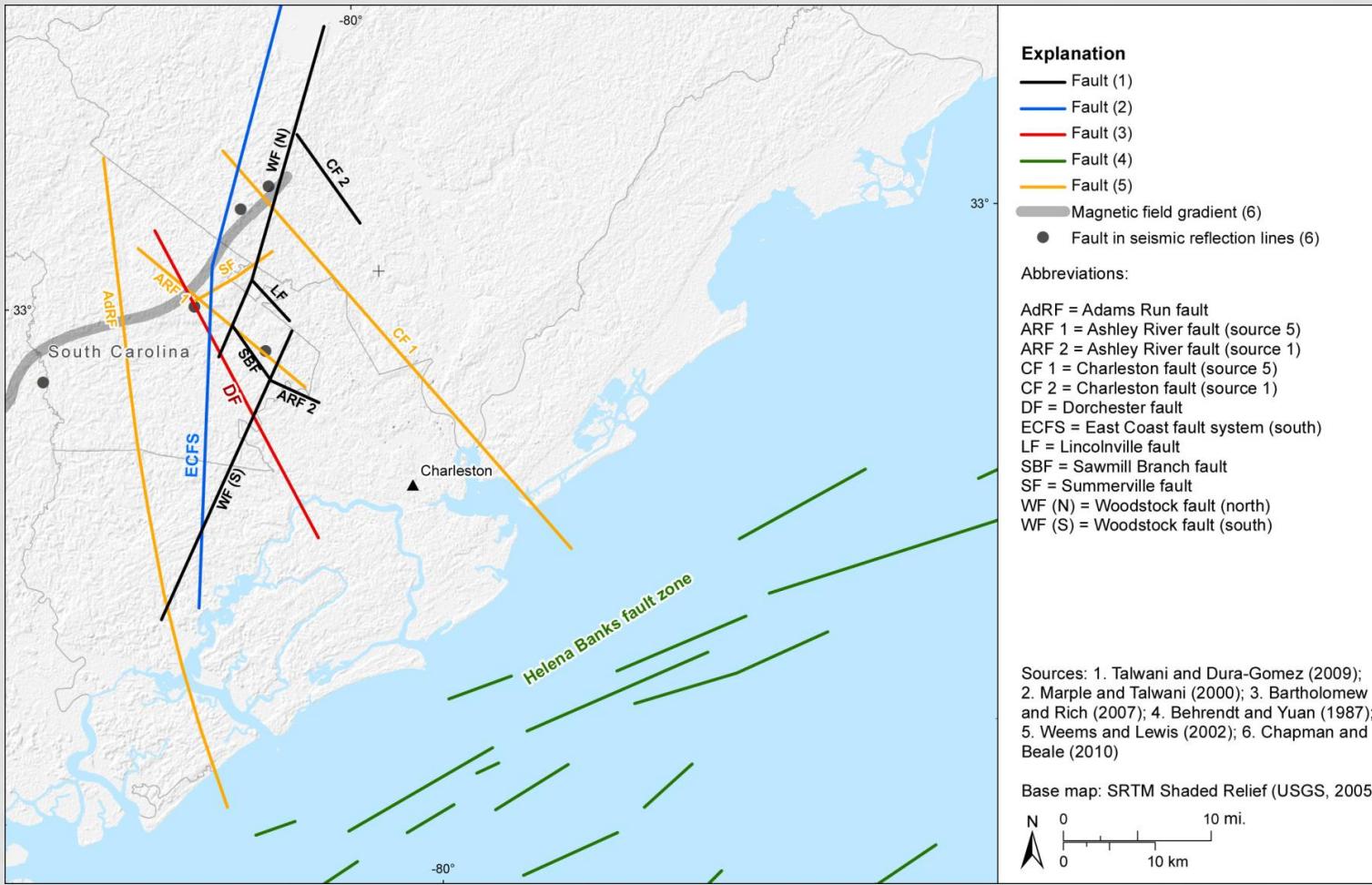


CHARLESTON, S.C.



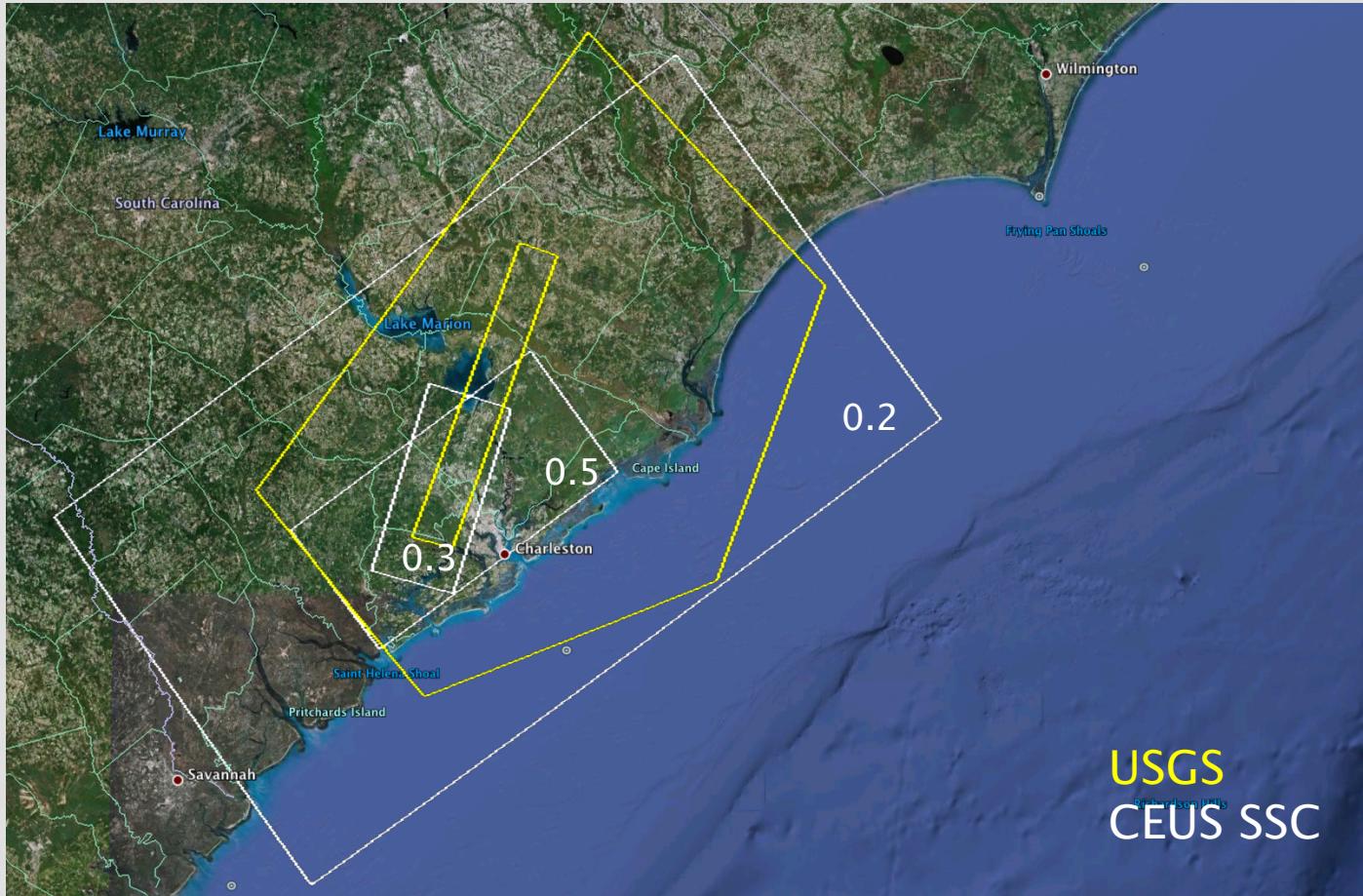
CHARLESTON RECENT PUBLICATIONS

- Marple, R.T., 2011, Comment on the companion articles “Finding faults in the Charleston area, South Carolina: 1. Seismological data” by I. Dura-Gomez, I., and P. Talwani and “Finding faults in the Charleston area, South Carolina: 2. Complementary data” by P. Talwani, and I. Dura-Gomez: *Seismological Research Letters*, v. 82, p. 599–605.
- Talwani, P., 2011, Response to “Comment on the Companion Articles ‘Finding Faults in the Charleston Area, South Carolina: 1. Seismological Data’ by I. Durá-Gómez and P. Talwani and ‘Finding Faults in the Charleston Area, South Carolina: 2. Complementary Data’ by P. Talwani and I. Durá-Gómez” by R. Marple: *Seismological Research Letters*, v. 82, p. 606–608.
- Talwani, P., Hasek, M., Gassman, S., Doar, W. R., III, and Chapman, A., 2011, Discovery of a Sand Blow and Associated Fault in the Epicentral Area of the 1886 Charleston Earthquake: *Seismological Research Letters*, v. 82, no. 4, p. 589–598.
- Chapman, M.C., and Beale, J.N., 2010, On the geologic structure at the epicenter of the 1886 Charleston, South Carolina, earthquake: *Bulletin of the Seismological Society of America*, v. 100, no. 3, pp. 1010–1030.
- Dura-Gomez, I., and Talwani, P., 2009, Finding faults in the Charleston area, South Carolina: 1. Seismological data: *Seismological Research Letters*, v. 80, no. 5, pp. 883–900.
- Talwani, P., and Dura-Gomez, I., 2009, Finding faults in the Charleston Area, South Carolina: 2. Complementary data, *Seismological Research Letters*, v. 80, no. 5, pp. 901–919.
- Chapman, M.C., and Beale, J.N., 2008, Mesozoic and Cenozoic faulting imaged at the epicenter of the 1886 Charleston, South Carolina earthquake: *Bulletin of the Seismological Society of America*, v. 98, pp. 2533–2542.
- **Abstracts**
- Gassman, S., Talwani, P., and Hasek, M., 2009, Maximum Magnitudes of Charleston, South Carolina Earthquakes from In-Situ Geotechnical Data: Abstracts Volume from Meeting of Central and Eastern U.S. Earthquake Hazards Program, University of Memphis, Memphis, TN, October 28–29, p. 19.
- Talwani, P., Dura-Gomez, I., Gassman, S., Hasek, M., and Chapman, A., 2008, Studies related to the discovery of a prehistoric sandblow in the epicentral area of the 1886 Charleston SC earthquake: Trenching and geotechnical investigations: *Program and Abstracts, Eastern Section of the Seismological Society of America*, p. 50.

CHARLESTON SOURCE, S.C. USGS AND CEUS SSC COMPARISON

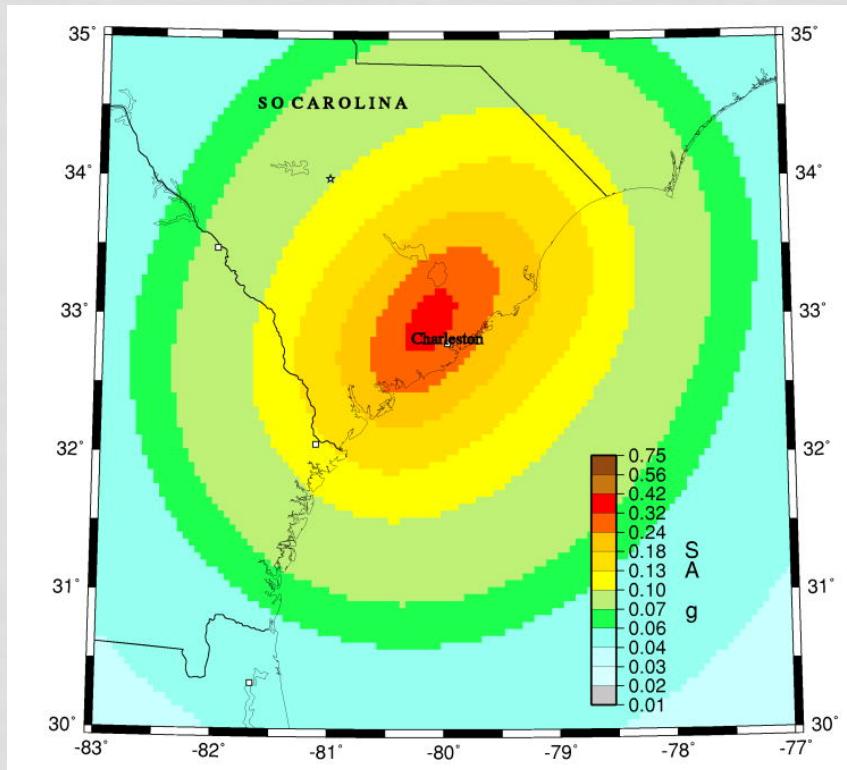
	2008 USGS	CEUS SSC
Source	Narrow 1,400 km ² (0.5) Broad 22,000 km ² (0.5)	Narrow 1,900 km ² (0.3) Local 5,000 km ² (0.5) Regional 39,000 km ² (0.2)
Characteristic M	M6.8 (0.2) M7.1 (0.2) M7.3 (0.45) M7.5 (0.15)	M6.7 (0.1) M6.9 (0.25) M7.1 (0.3) M7.3 (0.25) M7.5 (0.1)
Recurrence	550 yr	480 yr (0.8) 480 yr (0.04) 770 (0.06) 910 yr (0.06) 1100 yr (0.04)
Earthquake occurrence model	Poisson	Poisson (0.9) Brownian Passage Time (0.1)

CEUS SSC VS. USGS CHARLESTON SOURCE, S.C.

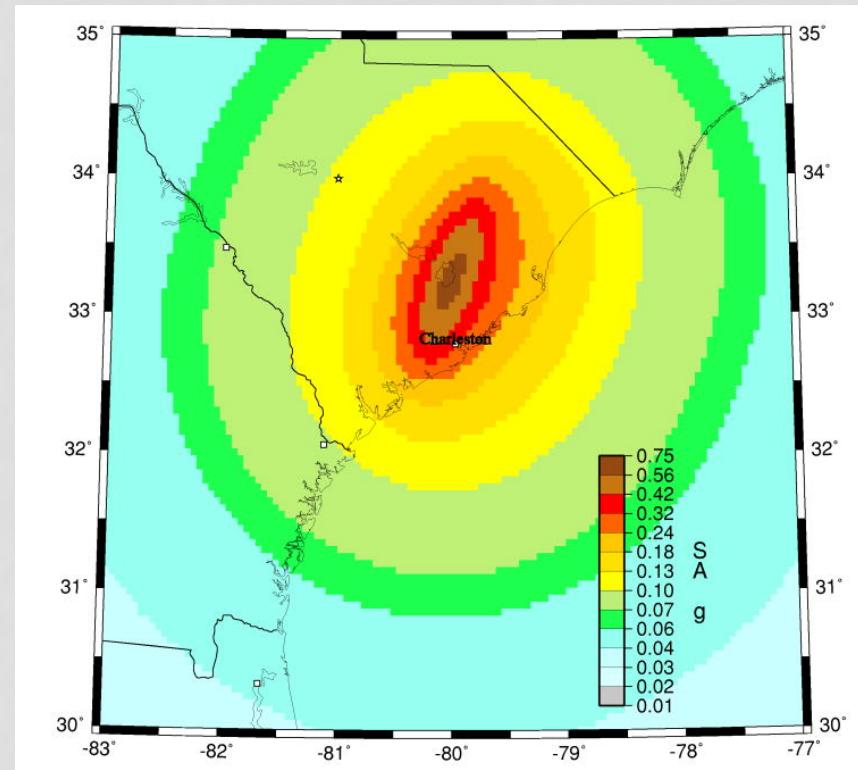


1-HZ SPECTRAL ACCELERATION 2% PE IN 50 YR

CEUS SSC zones



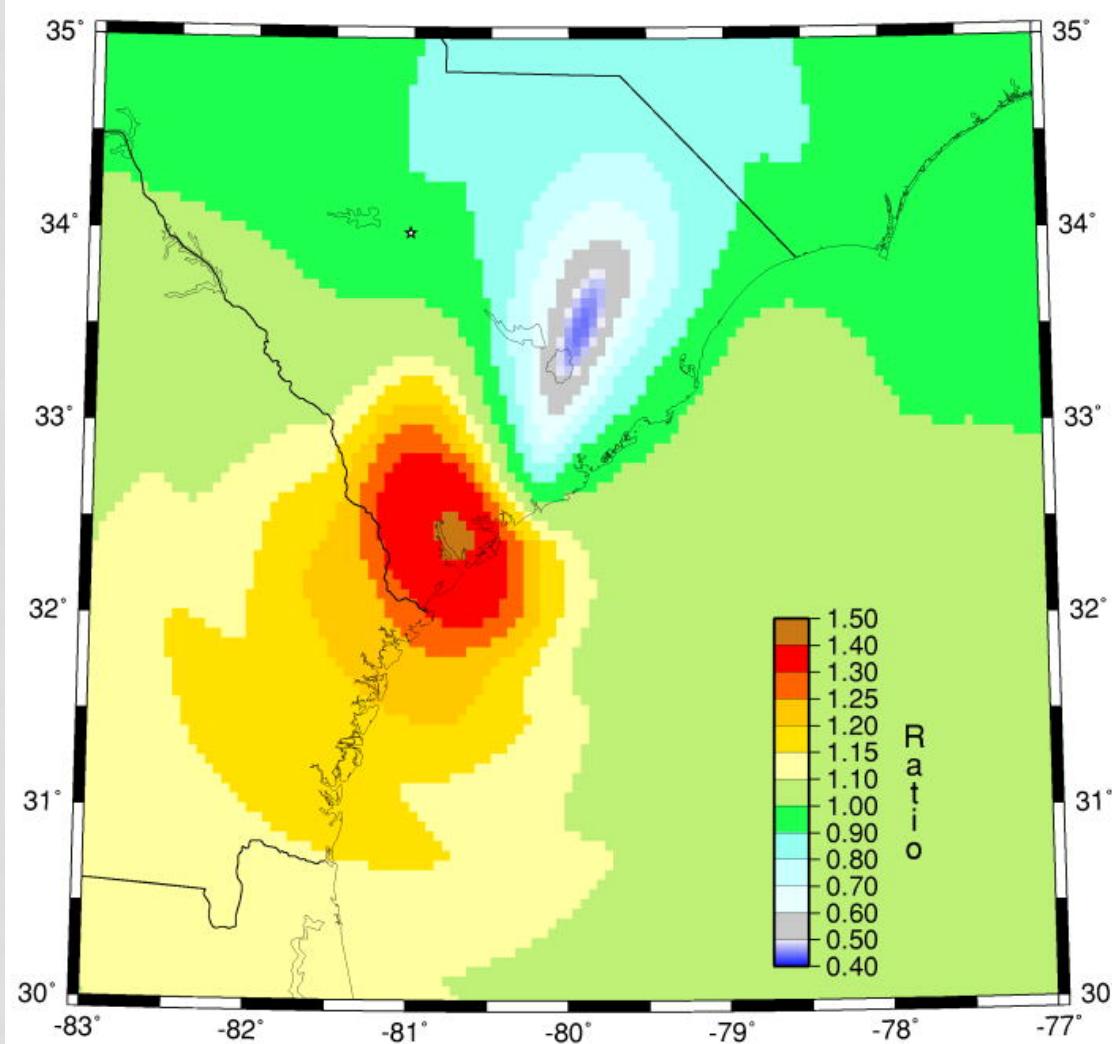
USGS zones



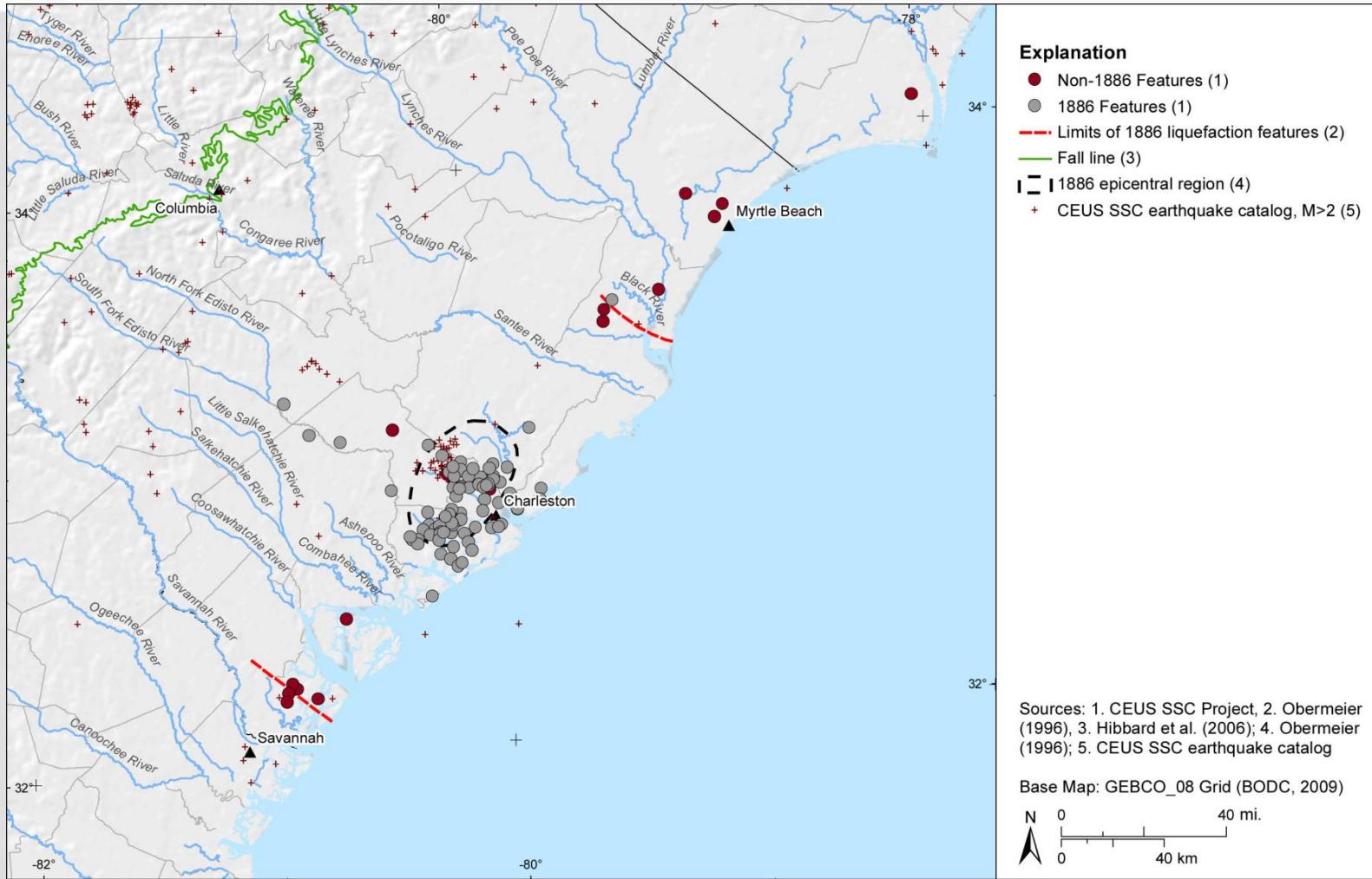
V_s30 760 m/s

RATIO MAP

CEUS SSC/USGS



CHARLESTON PALEOLIQUEFACTION



CEUS CHARLESTON SPACE-TIME DIAGRAM

Contemporary ages only

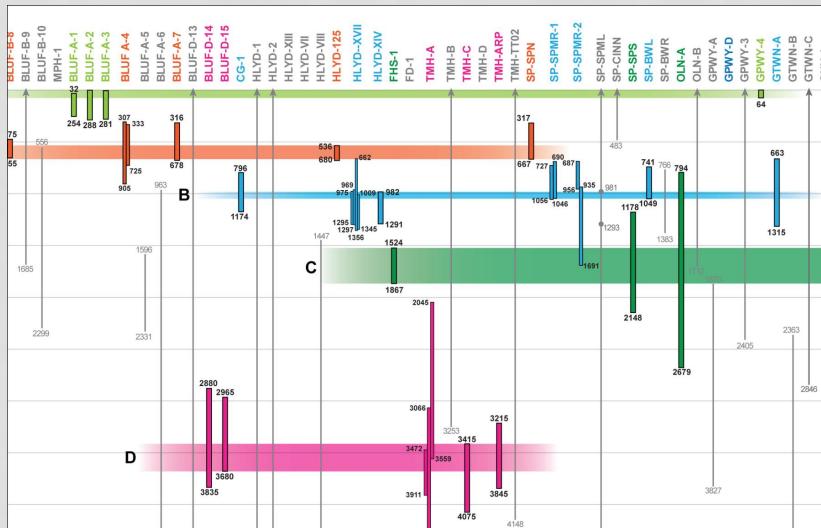


Fig 6.1.2-7

All ages

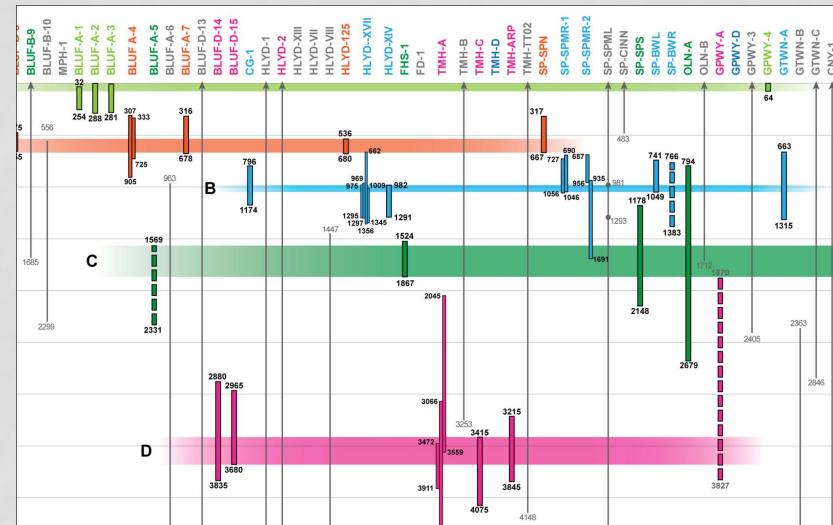
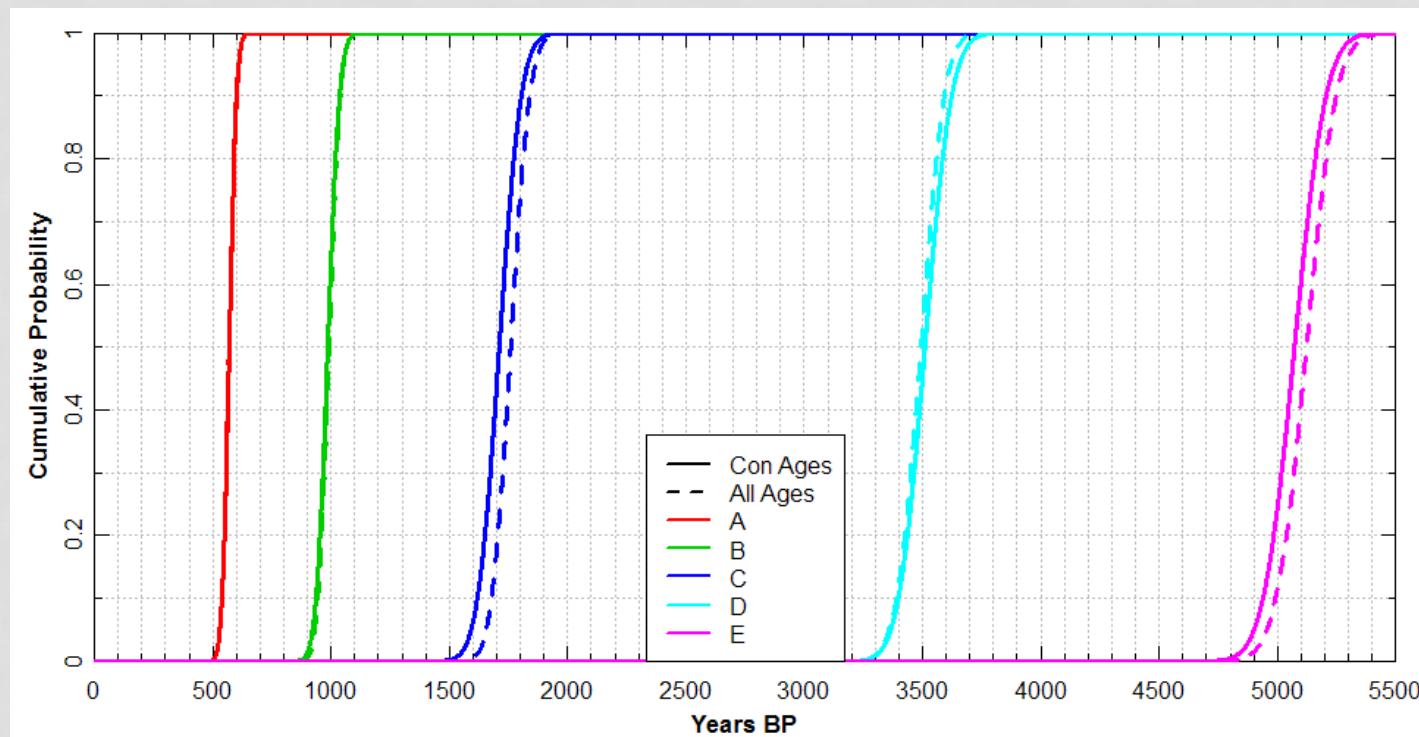


Fig 6.1.2-8
CEUS SSC report

AGE UNCERTAINTY FOR CHARLESTON PALEOLIQUEFACTION

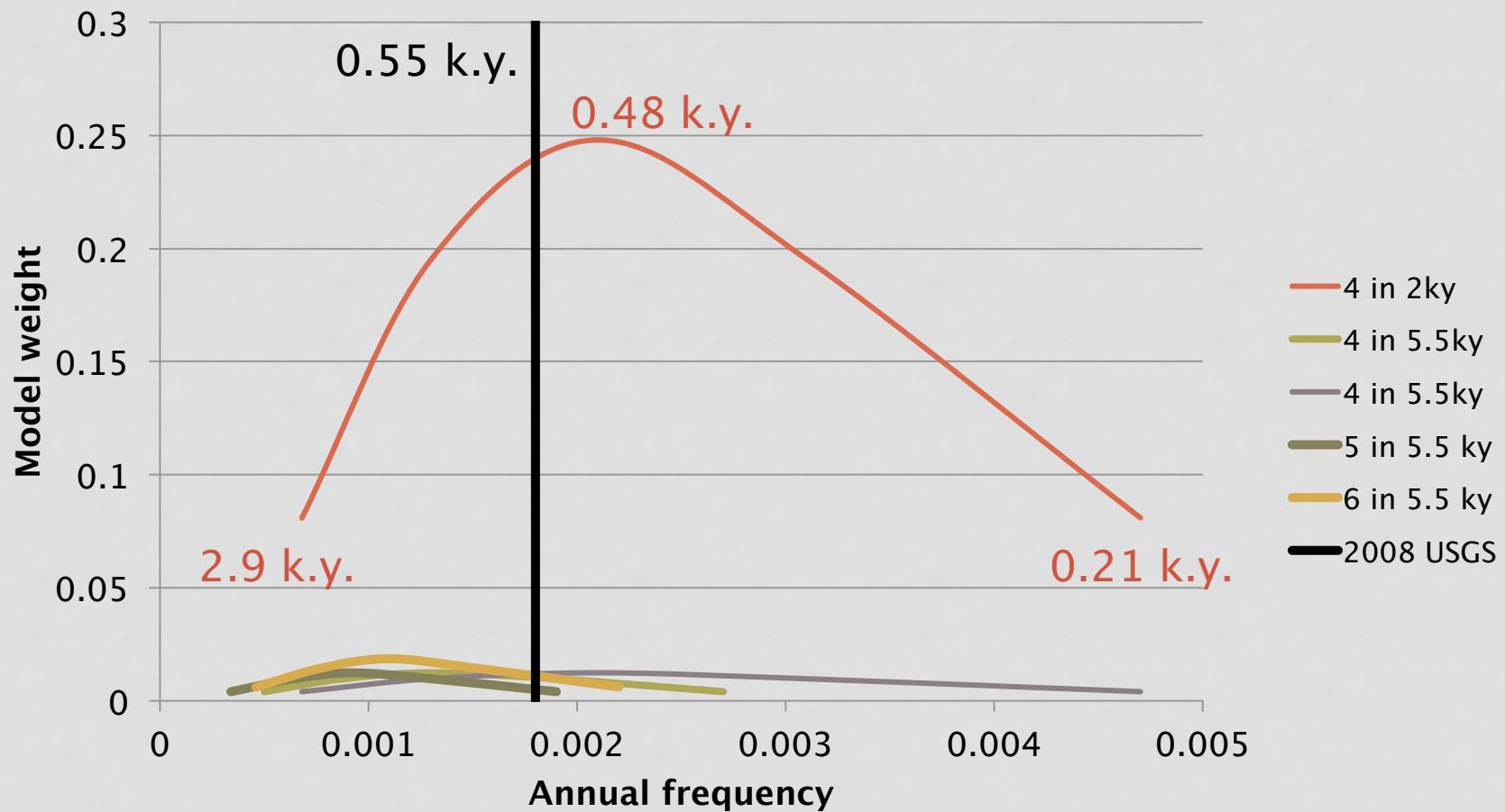


1886 B 1021±30 D 1754-2177 F 5038±166
A 546±17 C 1648±74 E 3548±66 G 5300-6300



Fig 6.1.2-19
CEUS SSC report

ANNUAL FREQUENCY OF MAXIMUM EARTHQUAKE, CHARLESTON SOURCES



QUESTIONS

- Should the USGS modify their Broad and Narrow zones that were used in prior maps?
- Is the modeled 550 yr return time appropriate to use in the update?